



---

# **Chemical Safety Board's (CSB) Findings in New York Chemical Waste-Mixing Incident**

**Leadership ViTS Meeting  
March 6, 2006**

**Bryan O'Connor,  
Chief  
NASA Office of Safety and Mission Assurance**

# The Accident

---

- **April 25, 2002: explosion in a mixed-use commercial building in downtown Manhattan “KALTECH Industries”**
- **36 Injuries**
  - 16 workers
  - 6 firefighters
  - 14 members of the public
- **Thirty-one of the injured were treated in hospitals, including four in intensive care.**
- **Street closed two weeks**





# CSB Findings

---

- **PROXIMATE CAUSE**
  - Employee improperly mixed volatile chemical wastes caused overpressure and burst of container
  - Secondary impact to other containers in area causing spillage of flammables
  - Electrical devices most probable ignition source for subsequent fire
  
- **CONTRIBUTING CAUSES: KALTECH Industries**
  - Company lacked basic Hazardous Materials Management Plan and Fire Safety Plan
  - Unsafe electrical devices in chemical storage room
  
- **CONTRIBUTING CAUSES: Regulators**
  - NYC: Outdated fire codes (1918!); inadequate inspections
  - State of New York: inadequate inspection
  - OSHA: inadequate inspection



## CSB Recommendations

---

- **To KALTECH Industries and Beyond Signs Inc. (Successor Company)**
  - Label and characterize all hazardous materials
  - Provide workers with information and training about their workplace chemicals
- To the Mayor and Council of New York City:**
  - Update the NYC Fire Code based on NFPA or other model fire code, including better control of storage and use of hazardous materials
- **To the New York State Department of Environmental Conservation:**
  - Increase inspections of hazardous waste generators located in mixed-occupancy buildings within densely populated areas



## How does this apply to NASA?

---

- Small distributed laboratories or other like operations?
- Potential uncontrolled chemicals coming into NASA facilities? (i.e., credit card purchases)
- Old stored chemical, perhaps with unknown history?
- Specs and plans up to date?
- When was our last chem. safety inspection?

For more information:

[http://www.csb.gov/index.cfm?folder=current\\_investigations&page=info&INV\\_ID=52](http://www.csb.gov/index.cfm?folder=current_investigations&page=info&INV_ID=52)